

## **ABSTRACT**

### **VIRTUAL TO PHYSICAL MEMORY MAPPING IN NETWORK INTERFACES**

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A computer network (1) comprises:- a plurality of processing nodes, at least two of which each having respective addressable memories and respective network interfaces (2); and a switching network (3) which operatively connects the plurality of processing nodes together, each network interface (2) including a memory management unit (8a) having associated with it a memory in which is stored (a) at least one mapping table for mapping 64 bit virtual addresses to the physical addresses of the addressable memory of the respective processing node; and (b) instructions for applying a compression algorithm to said virtual addresses, the at least one mapping table comprising a plurality of virtual addresses and their associated physical addresses ordered with respect to compressed versions of the 64 bit virtual addresses. The network interface (2) provides visibility across the network of areas of the memory of individual processing nodes in a way which supports full scalability of the network.

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Fig. 1